

## CLAIMS

1           1.     A method of manufacturing a transparent substrate that is to have a  
2 transparent conductive film formed on a surface thereof, characterized by controlling a  
3 surface smoothness of the surface of the transparent substrate to satisfy  $0\text{nm} \leq R_z \leq$   
4 4nm.

1           2.     A method of manufacturing a transparent substrate as claimed in claim 1,  
2 characterized in that the controlling of the surface smoothness is carried out by omitting  
3 polishing of the surface of the transparent substrate.

1           3.     A method of manufacturing a transparent substrate as claimed in claim 2,  
2 characterized in that the surface of the transparent substrate is subjected to etching  
3 using an acidic aqueous solution containing hydrofluoric acid or an alkaline aqueous  
4 solution containing potassium hydroxide or sodium hydroxide.

1           4.     A method of manufacturing a transparent substrate as claimed in claim 3,  
2 characterized in that after the etching has been carried out, the surface of the  
3 transparent substrate is subjected to alkaline washing comprising washing using an  
4 alkaline liquid.

1           5.     A method of manufacturing a transparent substrate as claimed in claim 1,  
2     characterized in that the controlling of the surface smoothness is carried out mainly by  
3     polishing the surface of the transparent substrate.

1           6.     A method of manufacturing a transparent substrate as claimed in claim 5,  
2     characterized in that the polishing of the surface of the transparent substrate is carried  
3     out using a cerium oxide powder having a predetermined mean particle diameter, and  
4     after the polishing of the surface of the transparent substrate has been carried out, the  
5     surface of the transparent substrate is washed using a mixed liquid of sulfuric acid and  
6     ascorbic acid or a mixed liquid of nitric acid and ascorbic acid, and after the surface of  
7     the transparent substrate has been washed, the surface of the transparent substrate is  
8     subjected to etching using an acidic aqueous solution containing hydrofluoric acid or an  
9     alkaline aqueous solution containing potassium hydroxide or sodium hydroxide.

1           7.     A method of manufacturing a transparent substrate as claimed in claim 6,  
2     characterized in that after the etching has been carried out, the surface of the  
3     transparent substrate is subjected to alkaline washing comprising washing using an  
4     alkaline liquid.

1           8.     A method of manufacturing a transparent substrate as claimed in claim 5,  
2     characterized in that polishing of the surface of the transparent substrate is carried out  
3     using a cerium oxide powder having a predetermined mean particle diameter, and is

4 then further carried out using a cerium oxide powder having a mean particle diameter  
5 lower than the predetermined mean particle diameter.

1 9. A method of manufacturing a transparent substrate as claimed in claim 8,  
2 characterized in that after the polishing of the surface of the transparent substrate has  
3 been carried out, the surface of the transparent substrate is washed using a mixed  
4 liquid of sulfuric acid and ascorbic acid or a mixed liquid of nitric acid and ascorbic acid.

1 10. A method of manufacturing a transparent substrate as claimed in claim 9,  
2 characterized in that after the surface of the transparent substrate has been washed,  
3 the surface of the transparent substrate is subjected to alkaline washing comprising  
4 washing using an alkaline liquid.

1 11. A method of manufacturing a transparent substrate as claimed in claim 9,  
2 characterized in that after the surface of the transparent substrate has been washed,  
3 the surface of the transparent substrate is subjected to etching using an acidic aqueous  
4 solution containing hydrofluoric acid or an alkaline aqueous solution containing  
5 potassium hydroxide or sodium hydroxide.

1 12. A method of manufacturing a transparent substrate as claimed in claim 8,  
2 characterized in that after the polishing of the surface of the transparent substrate has  
3 been carried out, the surface of the transparent substrate is subjected to etching using

4 an acidic aqueous solution containing hydrofluoric acid or an alkaline aqueous solution  
5 containing potassium hydroxide or sodium hydroxide.

1 13. A method of manufacturing a transparent substrate as claimed in claim 11,  
2 characterized in that after the etching has been carried out, the surface of the  
3 transparent substrate is subjected to alkaline washing comprising washing using an  
4 alkaline liquid.

1 14. A transparent substrate, characterized by having been manufactured  
2 using a method of manufacturing a transparent substrate as claimed in claim 1.

1 15. A transparent substrate as claimed in claim 14, characterized in that a  
2 transparent conductive film is formed on the surface thereof, and a surface smoothness  
3 of a surface of the transparent conductive film satisfies  $0\text{nm} \leq R_z \leq 8\text{nm}$ .

1 16. A transparent substrate that is to have a transparent conductive film  
2 formed on a surface thereof, characterized in that a surface smoothness of said surface  
3 thereof satisfies  $0\text{nm} \leq R_z \leq 4\text{nm}$ .

1 17. A transparent substrate as claimed in claim 16, characterized in that  
2 polishing of said surface has been omitted.

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4           18.    A transparent substrate as claimed in claim 17, characterized in that said  
5 surface has been subjected to etching using an acidic aqueous solution containing  
6 hydrofluoric acid or an alkaline aqueous solution containing potassium hydroxide or  
7 sodium hydroxide.

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9           19.    A transparent substrate as claimed in claim 18, characterized in that after  
10 the etching has been carried out, said surface has been subjected to alkaline washing  
11 comprising washing using an alkaline liquid.

1           20.    A transparent substrate as claimed in claim 16, characterized in that said  
2 surface has been polished.

1           21.    A transparent substrate as claimed in claim 20, characterized in that the  
2 polishing of said surface has been carried out using a cerium oxide powder having a  
3 predetermined mean particle diameter, and after the polishing of said surface has been  
4 carried out, said surface has been washed using a mixed liquid of sulfuric acid and  
5 ascorbic acid or a mixed liquid of nitric acid and ascorbic acid, and after said surface  
6 has been washed, said surface has been subjected to etching using an acidic aqueous  
7 solution containing hydrofluoric acid or an alkaline aqueous solution containing  
8 potassium hydroxide or sodium hydroxide.

1           22.    A transparent substrate as claimed in claim 21, characterized in that after  
2   the etching has been carried out, said surface has been subjected to alkaline washing  
3   comprising washing using an alkaline liquid.

1           23.    A transparent substrate as claimed in claim 20, characterized in that  
2   polishing of said surface has been carried out using a cerium oxide powder having a  
3   predetermined mean particle diameter, and has then further been carried out using a  
4   cerium oxide powder having a mean particle diameter lower than the predetermined  
5   mean particle diameter.

1           24.    A transparent substrate as claimed in claim 23, characterized in that after  
2   the polishing of said surface has been carried out, said surface has been washed using  
3   a mixed liquid of sulfuric acid and ascorbic acid or a mixed liquid nitric acid and ascorbic  
4   acid.

1           25.    A transparent substrate as claimed in claim 24, characterized in that after  
2   said surface has been washed, said surface has been subjected to alkaline washing  
3   comprising washing using an alkaline liquid.

1           26.    A transparent substrate as claimed in claim 24, characterized in that after  
2   said surface has been washed, said surface has been subjected to etching using an

3    acidic aqueous solution containing hydrofluoric acid or an alkaline aqueous solution  
4    containing potassium hydroxide or sodium hydroxide.

1            27.    A transparent substrate as claimed in claim 23, characterized in that after  
2    the polishing of said surface has been carried out, said surface has been subjected to  
3    etching using an acidic aqueous solution containing hydrofluoric acid or an alkaline  
4    aqueous solution containing potassium hydroxide or sodium hydroxide.

1            28.    A transparent substrate as claimed in claim 26, characterized in that after  
2    the etching has been carried out, said surface has been subjected to alkaline washing  
3    comprising washing using an alkaline liquid.

1            29.    A transparent substrate as claimed in claim 16, characterized in that a  
2    transparent conductive film is formed on said surface thereof, and a surface  
3    smoothness of a surface of said transparent conductive film satisfies  $0\text{nm} \leq R_z \leq 8\text{nm}$ .

1            30.    An electroluminescent device characterized by having a transparent  
2    substrate as claimed in claim 16.

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